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Introduction

Do you weigh more than you should? If so, you're like the two-thirds of American adults who are overweight. About one in three American adults is considered to be obese.

Obesity, in simple terms, is having a high proportion of body fat. Fat is important for storing energy and insulating your body, among other functions. The human body can handle carrying some extra fat, but beyond a certain point, body fat can begin to interfere with your health. For this reason, obesity is more than a cosmetic concern. Obesity puts you at greater risk of developing high blood pressure, diabetes and many other serious health problems.

The good news is that even modest weight loss can improve or prevent complications associated with obesity. Weight loss is usually possible through dietary changes, increased physical activity and behavior modification. For people who don't respond to these lifestyle changes, other more involved obesity treatments are available to enhance weight loss. These include prescription medications and weight-loss surgery.

Causes

Although there are genetic and hormonal influences on body weight, ultimately excess weight is a result of an imbalance of calories consumed versus calories burned through physical activity. If you consume more calories than you expend through exercise and daily activities, you gain weight. Your body stores calories that you don't need for energy as fat.

The following factors — usually working in combination — can contribute to weight gain and obesity.

- **Diet.** Regular consumption of high-calorie foods, such as fast foods, or increasing their portion sizes contributes to weight gain. High-fat foods are dense in calories. Loading up on soft drinks, candy and desserts also promotes weight gain. Foods and beverages like these are high in sugar and calories. In general, eating away from home also increases calorie intake.
- **Inactivity.** Sedentary people are more likely to gain weight because they don't burn calories through physical activities.
- **Quitting smoking.** Smokers tend to gain weight after quitting. This weight gain may be partially due to nicotine's ability to raise the rate

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at which your body burns calories (metabolic rate). When smokers stop, they burn fewer calories. Smoking also affects taste; quitting smoking makes food taste and smell better. Former smokers often gain weight because they eat more after they quit. However, cigarette smoking is still considered a greater threat to your health than is extra weight.

- **Pregnancy.** During pregnancy a woman's weight necessarily increases. Some women find this weight difficult to lose after the baby is born. This weight gain may contribute to the development of obesity in women.
- **Certain medications.** Corticosteroids and tricyclic antidepressants, in particular, can lead to weight gain. So can some high blood pressure and antipsychotic medications.
- **Medical problems.** Uncommonly, obesity can be traced to a medical cause, such as low thyroid function or excess production of hormones by the adrenal glands (Cushing's syndrome). A low metabolic rate is unlikely to cause obesity. In addition, it's unclear whether polycystic ovarian syndrome contributes to obesity. Some medical problems, such as arthritis, can lead to decreased activity, which may result in weight gain.

Risk factors

Factors that increase your risk of obesity include:

- **Genetics.** Your genes may affect the amount of body fat you store and where that fat is distributed. Genetics may also play a role in how efficiently your body converts food into energy and how your body burns calories during exercise. Your genetic makeup doesn't guarantee that you'll be obese, however.
- **Family history.** If one or both of your parents are obese, your chances of being obese are greater. This may be due to shared genes or to a shared environment, which may include high-calorie foods and inactivity.
- **Age.** As you get older, you tend to be less active. In addition, the amount of muscle in your body tends to decrease with age. This lower muscle mass leads to a decrease in metabolism. These changes also reduce calorie needs. If you don't decrease your caloric intake as you age, you'll likely gain weight.
- **Sex.** Women are more likely to be obese than are men. Women have less muscle mass and tend to burn fewer calories at rest than men do.

When to seek medical advice

How do you know whether you need to lose weight for medical reasons? Stepping on the scale only tells you your total weight — including bone, muscle and fluid — not how much of your weight is fat. The scale also doesn't tell you where you're carrying that fat. In determining health risks, both of these factors are more important than weight alone. Other pre-existing medical conditions, such as diabetes, also play a role in determining the health risks associated with too much body fat.

A threefold approach can help determine whether you need to lose weight for medical reasons. These include body mass index, waist measurement and personal medical history.

- **Body mass index (BMI).** The BMI is a formula that uses weight and height to estimate body fat and health risks. If your BMI is between 18.5 and 24.9, you're considered in a healthy weight range for your height. If your BMI is between 25 and 29.9, you're considered overweight. And, if the figure is 30 or greater, you're considered obese. The following table shows examples of healthy weight, overweight and obese weight ranges for several heights.

Height	Healthy weight	Overweight	Obese
5 feet 2 inches (62 inches)	101 to 136 pounds	137 to 163 pounds	164 pounds or more
5 feet 6 inches (66 inches)	115 to 154 pounds	155 to 185 pounds	186 pounds or more
5 feet 10 inches (70 inches)	129 to 173 pounds	174 to 208 pounds	209 pounds or more
6 feet 2 inches (74 inches)	144 to 194 pounds	195 to 233 pounds	234 pounds or more

- **Waist measurement.** If you carry most of your fat around your waist or upper body, you may be referred to as apple shaped. If you carry most of your fat around your hips and thighs or lower body, you may be referred to as pear shaped. When it comes to your health, it's better to have the shape of a pear than the shape of an apple. If you have an apple shape — a potbelly or spare tire — you carry more fat in and around your abdominal organs. Abdominal fat increases your risk of many of the serious conditions associated with obesity. Women's waist circumference measurements should be less than 35 inches. Men's should be less than 40 inches. These are rough cutoffs, but in general, the smaller the waist measurement the better.
- **Medical history.** You may benefit from weight loss if you have other health conditions, such as high blood pressure or diabetes. Also, if you have a family history of obesity, cardiovascular disease, diabetes, high blood pressure or sleep apnea, you may be at increased risk of developing weight-related complications.

If your BMI is between 25 and 29.9 or your waist measurement exceeds the healthy guidelines, and you have a medical history of other health conditions, you'll probably benefit from losing weight. Discuss your weight with your doctor at your next checkup.

If your BMI is 30 or more, you're considered obese. Losing weight will improve your health and reduce your risk of weight-related illnesses. Talk to your doctor about starting a weight-loss plan.

Screening and diagnosis

Your doctor can help you determine whether you need to lose weight and, if so, how much. In addition to evaluating your BMI and waist circumference, your doctor can review your medical history, which helps reveal how dangerous excess fat is to your health. Do you smoke, drink alcohol or live with a high level of stress? In combination with these behaviors, excess weight can have even greater health implications.

Your doctor can also assess your current health. You may have a health problem that would improve if you lost weight or that requires treatment beyond weight loss.

Talking to your doctor openly and honestly about your weight is one of the best things you can do for your health. The more your weight increases, the more medical problems you may face.

Complications

If you're obese, you're more likely to develop a number of potentially serious health problems. These may include:

- **High blood pressure.** As you put on weight, you gain mostly fatty tissue. Just like other parts of the body, this tissue relies on oxygen and nutrients in your blood to survive. As demand for oxygen and nutrients increases, the amount of blood circulating through your body also increases. More blood traveling through your arteries means added pressure on your artery walls. Weight gain also typically increases the level of insulin, a blood sugar controlling hormone, in your blood. The increase in insulin is associated with retention of sodium and water, which increases blood volume. In addition, excess weight often is associated with an increase in your heart rate and a reduction in the capacity of your blood vessels to transport blood. All of these factors can increase blood pressure.
- **Diabetes.** Obesity is a leading cause of type 2 diabetes. Excess fat makes your body resistant to insulin, the hormone that helps your body maintain a proper level of a sugar (glucose) in your blood. If your body is resistant to insulin, your blood sugar can be high — which isn't good — and leads to negative health effects.
- **Abnormal blood fats.** A diet high in saturated fats — red meat and fried foods, for example — can lead to obesity as well as elevated levels of low-density lipoprotein ("bad") cholesterol. Obesity is also associated with low levels of high-density lipoprotein ("good") cholesterol and high levels of triglycerides. Triglycerides are the form in which most fat exists in food as well as in your body. Over time, abnormal blood fats can contribute to atherosclerosis — the buildup of fatty deposits in arteries throughout your body. Atherosclerosis puts you at risk of coronary artery disease and stroke.
- **Coronary artery disease.** This is a form of cardiovascular disease. It results from the buildup of fatty deposits in arteries that supply your heart. Over time these deposits can narrow your heart's arteries, so less blood flows to your heart. Diminished blood flow to your heart can cause chest pain (angina). Complete blockage can lead to a heart attack.
- **Stroke.** Obesity is associated with atherosclerosis — the buildup of fatty deposits in arteries throughout your body, including arteries in your brain. If a blood clot forms in a narrowed artery in your brain, it can block blood flow to an area of your brain. The result is a stroke. Being obese raises your risk of a stroke.
- **Osteoarthritis.** This joint disorder most often affects the knees, hips and lower back. Excess weight puts extra pressure on these joints and wears away the cartilage that protects them, resulting in joint pain and stiffness.
- **Sleep apnea.** This serious condition causes a person to stop breathing for short periods during sleep and to snore heavily. The upper airway is blocked during sleep, which results in frequent awakening at night and subsequent drowsiness during the day. Most people with sleep apnea are overweight, which contributes to a large neck and narrowed airways.
- **Cancer.** Many types of cancer are associated with being overweight. These include cancers of the colon, rectum, esophagus, kidney, breast and prostate.
- **Fatty liver disease.** When you're obese, fats can build up in your liver. This fatty accumulation can lead to inflammation and scarring of the liver. Such scarring can cause cirrhosis of the liver, even if you're not a heavy alcohol drinker.
- **Gallbladder disease.** Because overweight people may produce more cholesterol, which can be deposited in the gallbladder, the risk of gallstones is higher in obese people. Fast weight loss — more than 3 pounds a week — also can increase the risk of gallstones.
- **Fertility and pregnancy problems.** Increased body mass may be associated with fertility problems for both men and women. Obesity may lead to gestational diabetes and other problems during pregnancy and may increase the risk of birth defects.
- **Physical discomfort.** As fat accumulates, it crowds the space occupied by your organs. Some obese people can't sit comfortably because of fat in their abdomen. In a seated position, an obese person may have limited ability to breathe. Pain in the back, feet, joints and muscles also may occur.
- **Social and emotional consequences.** Overweight or obese individuals may experience psychological stress, reduced income and discrimination.

Treatment

The goal of obesity treatment is to achieve and maintain a healthier weight. The amount of weight you need to lose to improve your health may be much less than what you feel you need to lose.

Just a 5 percent to 10 percent weight loss can bring health improvements. That means that if you weigh 200 pounds and are obese by BMI standards, you would need to lose about 10 to 20 pounds. You don't have to stop there, but it's a place to start. Slow and steady weight loss of 1 or 2 pounds a week is considered the safest way to lose weight and the best way to keep it off.

Achieving a healthy weight is usually done through dietary changes, increased activity and behavior modification. Depending on your situation, your doctor may suggest prescription medication or weight-loss surgery to supplement these efforts.

Dietary changes

Adopting a new eating style that promotes weight loss must include lowering your total calorie intake. One way you can lower your calorie intake is by eating more plant-based foods — fruits, vegetables and whole grains. Strive for variety to help you achieve your goals without giving up taste or nutrition. Cutting back on calories is easier if you focus on limiting sugar and other refined carbohydrates and some types of fat.

Ask your doctor to help you determine your calorie goals to lose weight. He or she may recommend that you also work with a dietitian or a reputable weight-loss program.

Crash diets to reduce calories aren't recommended because they can cut so many calories and nutrients that they lead to other health problems, such as vitamin deficiencies. Fasting isn't the answer, either. Most of the weight you initially lose is from water, and it's not good for your body to go without food for extended periods.

Very low calorie liquid diets are sometimes prescribed as an intervention for seriously obese people. These mainly liquid diets, such as Medifast or Optifast, provide about 800 calories a day — most adults consume roughly 2,000 to 2,500 calories a day. While people are usually able to lose weight on these very low calorie diets, most people regain the weight just as quickly when they stop following these diets.

Over-the-counter liquid meal replacements, such as Slim-Fast, also cut calories. These plans suggest that you replace one or two meals with their products — low-calorie shakes — then eat snacks of vegetables and fruits and a healthy, balanced third meal that is low in fat and calories. This can be as effective as a traditional calorie-controlled diet.

Increased physical activity

Cutting 250 calories from your daily diet can help you lose about half a pound a week: 3,500 calories equals 1 pound of fat. But add a 30-minute brisk walk four days a week, and you can double your rate of weight loss.

The goal of exercise for weight loss is to burn more calories, although exercise offers many other benefits as well. How many calories you burn depends on the frequency, duration and intensity of your activities. One of the best ways to lose body fat is through steady aerobic exercise — such as walking — for more than 30 minutes most days of the week.

Even though regularly scheduled aerobic exercise is most efficient for losing fat, any extra movement helps burn calories. Lifestyle activities may be easier to fit into your day. Think about ways you can increase your physical activity throughout the day. For example, make several trips up and down stairs instead of using the elevator, or park at the far end of the lot.

If you're obese, particularly if you're unfit and have health problems, check with your doctor before starting an exercise program.

Behavior modification

To lose weight and keep it off, you need to make changes in your lifestyle. But there's more to changing your lifestyle than choosing different foods and putting more activity into your day. It also involves changing your approach to eating and activity, which means changing how you think, feel and act.

A behavior modification program — led by a psychologist, therapist or other trained professional — can help you make these lifestyle changes. Behavior modification programs may include examining your current habits to find out what factors or situations may have contributed to your excess weight. Exploring your current eating and exercise habits gives you a place to start when changing your behaviors.

Once you understand which habits are undermining your weight-loss efforts, you can take steps to create a new, healthier lifestyle. These tips can help:

- **Have a plan.** Work out a strategy that will gradually change your habits and attitudes. Consider how often and how long you will exercise. Determine a realistic eating plan that includes plenty of water, fruits and vegetables. Write it down and choose a start date.
- **Set realistic goals.** Weight-loss goals can be process goals, such as exercising regularly, or outcome goals, such as losing 20 pounds. Make sure process goals are realistic, specific and measurable. For example, you'll walk for 30 minutes a day, five days a week. For outcome goals, aim to lose weight at a safe pace of 1 or 2 pounds a week. Losing weight more rapidly means losing water weight or muscle tissue, rather than fat.
- **Avoid food triggers.** Distract yourself from your desire to eat with something positive, such as calling a friend. Practice saying no to unhealthy foods and big portions. Eat when you're actually hungry — not when the clock says it's time to eat.
- **Keep a record.** Keep a food and activity diary, so you can reinforce good habits and discover any behaviors that you may need to improve. Be sure to track other important health parameters such as blood pressure, cholesterol levels and overall fitness.

Prescription weight-loss medication

It's best to lose weight through a healthy diet and regular exercise. But if you're among those who struggle to lose weight and the excess weight has produced medical problems, prescription weight-loss drugs may be able to help you.

Your doctor may consider you a candidate for medication treatment if these criteria apply:

- Other methods of weight loss haven't worked for you.
- Your body mass index (BMI) is greater than 27 and you have medical complications of obesity, such as diabetes, high blood pressure or sleep apnea.
- Your BMI is greater than 30.

Two prescription drugs have been approved by the Food and Drug Administration (FDA) for long-term weight loss. These drugs work in different ways and cause different side effects.

- **Sibutramine (Meridia).** This drug changes your brain chemistry, making you feel full more quickly. Though sibutramine generally helps you lose more weight than you could through diet and exercise alone, it's no magic bullet. Studies have shown that after a year, sibutramine users lost an average of about 10 pounds more than did people simply following a low-calorie diet and taking a placebo. Side effects can include increased blood pressure, headache, dry mouth, constipation and insomnia.
- **Orlistat (Xenical).** This drug prevents the absorption of fat in your intestines. Unabsorbed fat is eliminated in the stool. Average weight loss with orlistat is modest — about 6 pounds after one year. Side effects associated with the drug include oily and frequent bowel movements. Because orlistat blocks absorption of some nutrients, your doctor will recommend that you also take a multivitamin. The FDA has approved a reduced-strength version of orlistat (Alli) to be sold without a prescription. This medication works the same as prescription-strength orlistat and is meant only to supplement — not replace — a healthy diet and regular exercise.

If you're among those who can benefit from weight-loss medication, you'll likely need to take it indefinitely. When drug treatment is stopped, much or all of the excess weight generally returns.

Even if you qualify for weight-loss drug therapy, the drugs might not work for you. And, if they do work, their effects tend to level off after six months of use.

Weight-loss surgery

If you're among those who have tried and can't lose the excess weight that's causing your health problems, weight-loss (bariatric) surgery may be an option. Weight-loss surgery may be considered if:

- Your body mass index (BMI) is 40 or higher
- Your BMI is 35 to 39.9, and you have a serious weight-related health problem such as diabetes or high blood pressure

Gastric bypass surgery, which changes the anatomy of your digestive system to limit the amount of food you can eat and digest, is the favored weight-loss surgery in the United States.

In gastric bypass (Roux-en-Y gastric bypass) the surgeon creates a small pouch at the top of the stomach. The small intestine is then cut a short distance below the main stomach and connected to the new pouch. Food and liquid flow directly from the pouch into this part of the intestine, bypassing most of the stomach. The stomach continues to make digestive juices to help break down food. So the portion of the intestines still attached to the stomach is reattached farther down. This allows the digestive juices to flow to the small intestine. Weight loss is achieved by restricting the amount of food that the stomach can hold and to a lesser extent by reducing the amount of calories that are absorbed.

When appropriate, weight-loss surgery can result in dramatic improvements in weight and health. Within the first two years, you can expect to lose 50 percent to 60 percent of your excess weight. Those people who follow dietary and exercise recommendations tend to keep most of that weight off long term.

Weight-loss surgery does have side effects, however. Complications such as pneumonia, blood clots and infection can occur with any type of surgery. Rapid weight loss can result in gallstones; a hernia or weakness, which may require surgery to correct, may develop at the site of your incision. Gastric bypass can also cause dumping syndrome, a condition in which stomach contents move too quickly through the small intestine, causing nausea, vomiting, diarrhea, dizziness and sweating.

Surgery for weight reduction isn't a miracle procedure. It doesn't guarantee that you'll lose all of your excess weight or that you'll keep it off long term. Weight-loss success after gastric bypass surgery depends on your commitment to making lifelong changes in your eating and exercise habits.

Prevention

Whether you're at risk of becoming obese, currently overweight or at a healthy weight, you can take steps to prevent obesity and the associated health problems.

Not surprisingly, the steps to prevent weight gain are the same as the steps to lose weight: Daily exercise, a healthy menu, a long-term commitment and constant vigilance.

- **Exercise regularly.** One of the most important things you can do to prevent weight gain is to exercise regularly. Studies suggest that it takes 30 to 60 minutes of moderately intense physical activity daily to keep the pounds off. Moderately intense physical activities include fast walking and swimming.
- **Enjoy healthy meals and snacks.** Focus on low-calorie, nutrient-dense foods, such as fruits, vegetables and whole grains. Keep saturated fat low and limit sweets and alcohol. Remember that no one food offers all the nutrients you need. Choose a variety of foods throughout the day. It's not out of the question to eat and enjoy small amounts of high-fat, high-calorie foods on occasion. But the main thing is that you choose foods that promote a healthy weight and good health more often than you choose foods that don't.
- **Know and avoid the food traps that cause you to eat.** Know which situations trigger out-of-control eating for you. The best way to identify food traps and emotionally triggered eating is to keep a journal. For as long as you find it helpful, write down what you eat, how much you eat, when you eat, how you're feeling and how hungry you are. After a while, you should see some patterns emerge. Once you know these patterns and triggers, you can plan ahead and develop a strategy for how you'll handle these types of situations. This will help you understand and stay in control of your eating behaviors.
- **Monitor your weight regularly.** People who weigh themselves at least once a week are more successful in keeping off the pounds. Monitoring your weight can tell you whether your efforts are working and can help you detect small weight gains before they become larger.
- **Be consistent.** Sticking to your healthy-weight plan during the week, on the weekends, and amidst vacation and holidays as much as possible increases your chances of long-term success.

If you really want to prevent weight gain, the best approach is to focus on lifestyle changes and develop an eating plan that's enjoyable, yet healthy and low in calories. This approach results in weight loss that you can live with — that is, that you can maintain over a long period of time.

Coping skills

One of the most painful aspects of obesity may be the emotional suffering it can cause. Many people and cultures equate beauty and success with slimness, and unfairly label obese people as lazy or gluttonous. Feelings of shame and depression are common among obese people. But obesity should be viewed as a chronic condition — not a moral failing or personal choice.

It may be helpful to talk to others who also are struggling with their weight. Ask your doctor for information on weight-loss support groups in your area. There are also Web sites designed to help you lose weight and feel better about yourself. Ask your family and friends for support. If your weight has you feeling depressed, talk to your doctor about treatments for depression.

If you're overweight or obese, you have to cultivate a positive attitude before you can shed those unwanted pounds. With knowledge, the right attitude and a good plan, you can — and will — lose weight.

- [Gastric bypass surgery: Can it be redone if you regain weight?](#)
- [Gastric bypass: Is this weight-loss surgery for you?](#)
- [Gastric bypass diet: Nutritional needs after weight-loss surgery](#)

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